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NRL Unveils A New Way to Observe Desert Dust Storms From Space

Why the Navy is So Concerned with Dust:

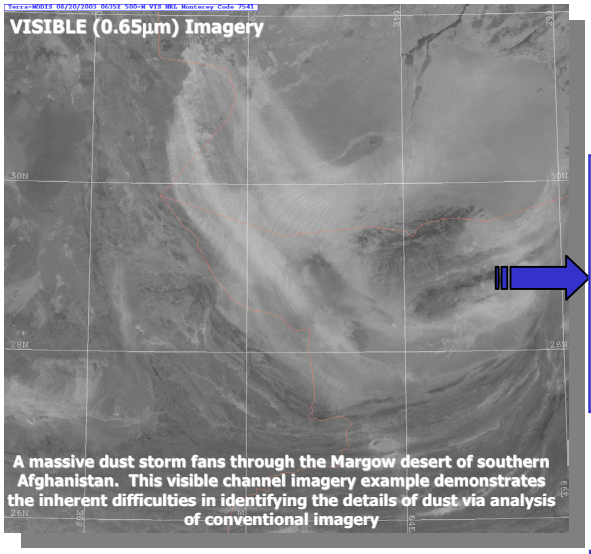
- It reduces visibility for pilots
- It can damage jet engines and helicopters
- It renders laser guided weaponry ineffective
- Widespread dust storms are very common to the domains of recent conflicts (Afghanistan and Iraq)

The Challenge:

- Dust storms often originate in remote areas where surface observations are not readily available → we need satellite observations to fill the gaps
- Conventional satellite measurements have difficulty detecting dust, particularly when it is over land

The Solution:

- State-of-the art measurements from next-generation satellite sensors are capable of measuring the unique combination of properties of dust that separate it from most all other constituents of the scene
- We use this new information to make dust "stand out" in the resultant imagery



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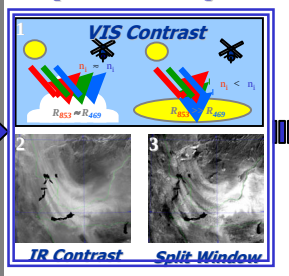

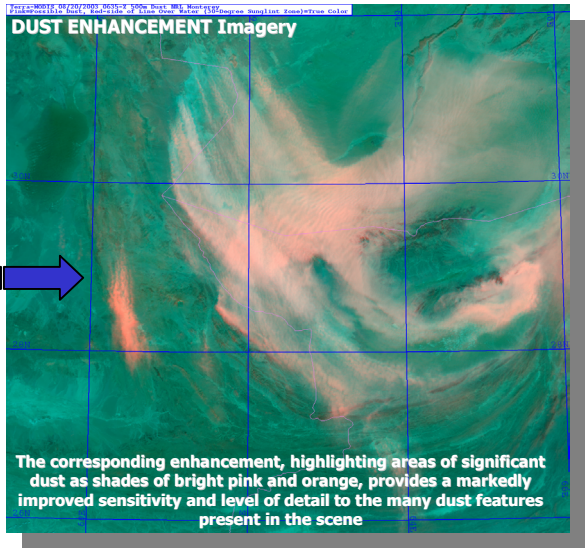

The Impact:

The NRL dust products were used extensively by the Navy Fleet, the Air Force, and Coalition Forces during Operations Enduring Freedom and Iraqi Freedom. They are also currently being used to develop and validate NRL aerosol prediction models